

ABSTRACT OF THE DISCLOSURE

The present invention discloses an interferometer optical switch that can carry out switching over a broad band and has a high extinction ratio and large fabrication tolerance. The interferometer optical switch employs a phase generating coupler, the phase difference of the output of which has wavelength dependence, as at least one of the optical multi/demultiplexing device included in the interferometer optical switch. A wavelength insensitive interferometer optical switch is implemented by making the sum $2\pi\{\phi_1(\lambda) + \phi\Delta_L(\lambda) + \phi_2(\lambda)\}$ constant regardless of the wavelength, where $\phi_1(\lambda)$ is the phase produced by the first optical multi/demultiplexing device, $2\pi\phi\Delta_L(\lambda)$ is the phase difference of the optical delay line with an optical path length difference of ΔL , and $2\pi\phi_2(\lambda)$ is the phase produced by the second optical multi/demultiplexing device.

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